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10/029,830	12/27/2001	Anna L. Buczak	US010725	5529

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
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EXAMINER
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SHEPARD, JUSTIN E

ART UNIT	PAPER NUMBER
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2623

MAIL DATE	DELIVERY MODE
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06/14/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/029,830

Applicant(s)

BUCZAK ET AL.

Examiner

Justin E. Shepard

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/13/06 has been entered.

### ***Response to Arguments***

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3, 5-8, 14, 15, 17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graves in view of Tsai.

Referring to claim 1, Graves discloses a method for providing hierarchical decision fusion of recommender scores, said method comprising the steps of:

(a) providing a plurality of recommenders at a first level, said recommenders being grouped to at least one of a plurality of predetermined groups (column 8, lines 52-55);

(b) providing a predetermined number of first level fusion centers for receiving an output from each of said recommenders from at least one particular group (figure 8, lines going into part 48);

(c) outputting a decision by each one of said plurality of recommenders grouped in step (a) to a respective first level fusion center, wherein each decision provides a recommendation (figure 8, lines going from part 48 to 50);

(d) each respective first level fusion center performing a first fusing step of the decisions output in step (c) by said recommenders from said at least one particular group (figure 8, part 50);

(e) each respective first level fusion center outputting a first enhanced decision based on the fusion performed in step (d) (figure 8, lines going from part 50 to 52);

(f) providing a plurality of second level fusion centers for receiving the first enhanced decisions output from a group of said first level fusion centers (figure 8, part 52);

(g) each respective second level fusion center performing a second fusing step of the first enhanced decisions received from the group of said first level fusion centers (figure 8, part 52);

(h) each respective second level fusion center outputting a second enhanced decision (figure 8, part GRADE); and

(i) outputting to a user a finally enhanced decision chosen from the enhanced decisions in step (h) (column 2, lines 23-25).

Graves does not disclose a method wherein step (f) is preformed if the first enhanced decisions are not within a predefined range, and otherwise outputting to a user a finally enhanced decision chosen from the enhanced decisions at step (e).

In an analogous art, Tsai teaches a method wherein step (f) is preformed if the first enhanced decisions are not within a predefined range, and otherwise outputting to a user a finally enhanced decision chosen from the enhanced decisions at step (e) (figure 8; column 4, lines 10-17).

At the time of the invention it would have been obvious for one of ordinary skill in the art to add the predefined range step taught by Tsai to the method disclosed by Graves. The motivation would have been to enable the result to be available sooner, as it would only pass through the first level of logic.

Referring to claim 2, Graves discloses a method according to Claim 1, wherein the plurality of recommenders provided in step (a) have overlapping topics of interest (figure 3; Note: Each of the categories could describe features of the same television program or movie, and therefore are considered to have overlapping topics of interest.).

Referring to claim 3, Graves discloses a method according to Claim 2, wherein the user's profile contains a plurality of preferences previously recorded (column 8, lines 52-55).

Referring to claim 5, Graves discloses a method according to Claim 1, wherein the first fusing step recited in step (d) is performed by one of weighted average, voting, neural network (column 6, lines 24-26), and Dempster- Shaffer Evidential Reasoning.

Referring to claim 6, Graves discloses a method according to Claim 1, wherein the second fusing step recited in step (g) is performed by one of weighted average, voting, neural network (column 6, lines 24-26), and Dempster-Shaffer Evidential Reasoning.

Referring to claim 7, Graves discloses a method according to Claim 1, wherein step (h) further comprises (i) providing a plurality of third level fusion centers for receiving the second enhanced decisions from the second level of fusion centers, and (ii) each of the plurality of third level fusion centers performing a third fusing step of a predetermined number of second enhanced decisions (column 6, lines 30-39).

Claim 8 is rejected on the same grounds as claim 7.

Referring to claim 14, Graves discloses a method according to Claim 11, wherein the finally enhanced step is output to the user via one of wire communication (figure 1, line going from part 17 to 20), wireless communication, fiber optics, LAN/WAN, and Internet.

Referring to claim 15, Graves discloses a system for hierarchical decision fusion of recommender scores, said system comprising:

- a central processing unit (figure 2, part 28a);
- a memory in communication with said central processing unit (figure 2, part 32a);
- a recommender module comprising fusion software for fusing recommendations of a predetermined number of groups (figure 1, part 17);
- means for outputting a recommendation to a user (column 2, lines 23-25);
- wherein said recommender module provides at least two levels of fusion (figure 8), wherein a plurality of recommendations are fused at a first level to provide a plurality of first enhanced decisions (figure 8, part 50), and said plurality of first enhanced decision are fused at a second level to provide a plurality of second enhanced decisions which are fewer in number than said first enhanced decisions (figure 8, part 52).

Graves does not disclose a method wherein second step is preformed if the first enhanced decisions are not within a predefined range, and otherwise outputting to a user a finally enhanced decision chosen from the enhanced decisions at the first step.

In an analogous art, Tsai teaches a method wherein second step is preformed if the first enhanced decisions are not within a predefined range, and otherwise outputting to a user a finally enhanced decision chosen from the enhanced decisions at the first step (figure 8; column 4, lines 10-17).

At the time of the invention it would have been obvious for one of ordinary skill in the art to add the predefined range step taught by Tsai to the method disclosed by

Graves. The motivation would have been to enable the result to be available sooner, as it would only pass through the first level of logic.

Claim 17 is rejected on the same grounds as claim 14.

Referring to claim 19, Graves discloses a system according to Claim 15, wherein said means for outputting a recommendation to a user includes a display (figure 1, part 22a).

Referring to claim 20, Graves discloses a system according to Claim 15, wherein said system includes means for storing a cookie on a user's storage device, said cookie containing an identifier of a user profile in said memory (column 8, lines 52-55).

2. Claims 4 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graves in view of Tsai as applied to the claims above, and further in view of Gill.

Referring to claim 4, Graves and Tsai do not disclose a method according to Claim 3, wherein the previously recorded preferences comprise one of a viewing history, listening history, and literary history.

In an analogous art, Gill teaches a method according to Claim 3, wherein the previously recorded preferences comprise one of a viewing history (figure 11, box 195), listening history, and literary history.



At the time of the invention it would have been obvious for one of ordinary skill in the art to add viewing history to the items considered, as taught by Gill, in the program selecting method disclosed by Graves and Tsai. The motivation would have been to provide more information to the neural network, therefore making the output more accurate and more useful to the user.

Claim 16 is rejected on the same grounds as claim 4.

3. Claims 9-11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graves in view of Tsai as applied to the claims above, and further in view of Yeh.

Referring to claim 9, Graves and Tsai do not disclose a method according to Claim 7, wherein step (h) further comprises (iii) providing a single  $n$ th level fusion center,  $n$  being an integer greater than 3, said  $n$ th level fusion center receiving decisions output from said second level of fusion centers; and (iv) providing an  $n$ th fusing step from the second enhanced decisions.

In an analogous art, Yeh teaches a method according to Claim 7, wherein step (h) further comprises (iii) providing a single  $n$ th level fusion center,  $n$  being an integer greater than 3, said  $n$ th level fusion center receiving decisions output from said second level of fusion centers; and (iv) providing an  $n$ th fusing step from the second enhanced decisions (figure 8).

At the time of the invention it would have been obvious for one of ordinary skill in the art to add hidden levels to the neural network, as taught by Yeh, to the method

disclosed by Graves and Tsai. The motivation would have been to allow the process to be more accurate.

Claim 10 is rejected on the same grounds as claim 9.

Referring to claim 11, Graves and Tsai do not disclose a method according to Claim 9, wherein the nth level of fusion centers is a fourth level.

In an analogous art, Yeh teaches a method according to Claim 9, wherein the nth level of fusion centers is a fourth level (figure 8, column 11, lines 26-28).

At the time of the invention it would have been obvious for one of ordinary skill in the art to add hidden levels to the neural network, as taught by Yeh, to the method disclosed by Graves and Tsai. The motivation would have been to allow the process to be more accurate.

Referring to claim 13, Graves and Tsai do not disclose a method according to Claim 11, wherein the nth fusion step is performed by one of weighted average, voting, neural network, and Dempster-shaffer Evidential Reasoning.

In an analogous art, Yeh teaches a method according to Claim 11, wherein the nth fusion step is performed by one of weighted average, voting, neural network (figure 8, column 11, lines 26-28), and Dempster-shaffer Evidential Reasoning.

At the time of the invention it would have been obvious for one of ordinary skill in the art to add hidden levels to the neural network, as taught by Yeh, to the method

disclosed by Graves and Tsai. The motivation would have been to allow the process to be more accurate.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graves in view of Tsai as applied to the claims above, and further in view of Inoue.

Referring to claim 12, Graves and Tsai do not disclose a method according to Claim 8, further comprising providing a single  $n$ th level fusion center,  $n$  being an integer greater than 4, said  $n$ th level fusion center receiving decisions from a plurality of  $n-1$  level fusion centers, wherein said  $n-1$  level fusion centers being a higher level than the third level of fusion centers.

In an analogous art, Inoue teaches a method according to Claim 8, further comprising providing a single  $n$ th level fusion center,  $n$  being an integer greater than 4, said  $n$ th level fusion center receiving decisions from a plurality of  $n-1$  level fusion centers, wherein said  $n-1$  level fusion centers being a higher level than the third level of fusion centers (figure 5).

At the time of the invention it would have been obvious for one of ordinary skill in the art to add hidden levels to the neural network, as taught by Inoue, to the method disclosed by Graves and Tsai. The motivation would have been to allow the process to be more accurate.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graves in view of Tsai as applied to the claims above, and further in view of Yuen.

Referring to claim 18, Graves and Tsai do not disclose a system according to Claim 15, wherein memory comprises a network server.

In an analogous art, Yuen teaches a system according to Claim 15, wherein memory comprises a network server (figure 11, part 350).

At the time of the invention it would have been obvious for one of ordinary skill in the art to move the neural network to a network server, as taught by Yuen. The motivation would have been to enable the user set top boxes to be simpler by doing the calculations on the server.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graves in view of Tsai as applied to the claims above, and further in view of Kim.

Referring to claim 21, Graves and Tsai do not disclose a system according to Claim 19, wherein the display resides in a remote control.

In an analogous art, Kim teaches a system according to Claim 19, wherein the display resides in a remote control (paragraph 46, lines 1-3).

At the time of the invention it would have been obvious for one of ordinary skill in the art to add the remote viewer, taught by Kim, to the system disclosed by Graves and Tsai. The motivation would have been to allow the user to view the recommendations without interrupting the display of video on the television.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin E. Shepard whose telephone number is (571) 272-5967. The examiner can normally be reached on 7:30-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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